Autologous Blood Injections
Health Technology Assessment Brief

Molly Belozer
Office of the Medical Director
Department of Labor and Industries

Purpose:

Histopathologic studies have indicated that lateral epicondylitis (tendonitis or "tennis elbow") is not an inflammatory condition, but a fibroblastic and vascular response called angiofibroblastic degeneration now more commonly known as tendinosis. Most non-surgical treatments for lateral epicondylitis (including steroid injections and nonsteroidal anti-inflammatory medication) focus on suppressing an inflammatory process that does not actually exist in tendinosis. The theory behind the autologous blood injections is that an injection of autologous blood might provide the necessary cellular and humoral mediators to induce a healing cascade. Autologous blood was selected as the medium of injection because:

1. Its application is minimally traumatic,
2. It has a reduced risk for immune-mediated rejection,
3. It is simple to acquire and prepare, and
4. It is inexpensive.

Procedure:

Two mL of autologous blood are drawn from the ipsilateral upper extremity and mixed with 1 mL of 2% lidocaine HCl or 1mL of 0.5% bupivacaine HCl. The needle is introduced proximal to the lateral epicondyle along the supracondylar ridge and gently advanced into the undersurface of the extensor carpi radialis brevis (ECRB) while infusing the blood-anesthetic mixture extra-articularly.

Evidence:

Edwards SG and Calandruccio JH. "Autologous Blood Injections for Refractory Lateral Epicondylitis." *Journal of Hand Surgery*. 2003; 28A(2): 272-278.

Study type	Primary outcome	Inclusion	Exclusion	Baseline Population	Blind	Results
Case series study	VAS and Nirschl staging reported by/logged by patients at 0 or nearly 0 post-injection	Lateral epicondylitis	Patients who had surgery for lateral epicondylitis and patients receiving steroid injections 3 months prior to autologous blood injections, also patients who opted out of participating.	28 subjects, median age 46.5, 3 months of persistent symptoms with conservative treatment	No	Maximum benefit 3 weeks after injection, 79% subjects completely relieved of pain even during strenuous activity

Of the 28 patients involved, seven needed two autologous blood injections and two needed three autologous blood injections to reach optimal pain and Nirschl scores.

The study authors concluded that despite the early favorable results of lateral epicondylitis treatment, additional patients and longer-term follow-up evaluation are required to substantiate their results. They also believe that clinical findings such as theirs should be correlated with histologic specimens showing evidence of healing (such as organization of collagen bundles and return to normal cellular activity) after injections of autologous blood into areas of tendinosis. Without a control or comparison group, the study does not prove that autologous blood injections directly result in tendinosis improvement.

Costs:

There is no cost information or billing code available at this time.

Insurers:

No insurers appear to have coverage policies on autologous blood injections.

Conclusion:

At this time, autologous blood injections for lateral epicondylitis and other indications are considered to be experimental.